

**Please replace the paragraph beginning at page 1, line 12, with the following rewritten paragraph:**

According to an increased requirement for operating the table at a high speed, a linear motor has been often utilized in place of a ball screw as a driving source. In general, the linear motor is provided with a movable element as a primary side and a stator as a secondary side. The primary movable element is given a thrust (force) by the change of a field (magnetic field) and then linearly moves on the secondary side stator.

**Please replace the paragraph beginning at page 1, line 20, through page 2, line 1, with the following rewritten paragraph:**

In order to move the table fast, it is desired for the linear motor to generate a large thrust force. There is known, as a linear motor having an increased large thrust force, a linear motor in which a pair of primary movable elements disposed on both sides of a single secondary stator so as to sandwich the same therebetween.

**Please replace the paragraph beginning at page 2, line 7, with the following rewritten paragraph:**

An object of the present invention is to substantially eliminate the defect or drawback encountered in the prior art and to provide a linear motor system capable of generating a large thrust force without increasing the thickness of the structure thereof and also provide a driving apparatus provided with such linear motor system as a driving source.

**Please replace the paragraph beginning at page 4, line 1, with the following rewritten paragraph:**

In a case where linear D.C. motors are used for the first and second linear motors in the above linear motor system, in which a distance between the secondary side magnets is short, there may be caused a defect of operation because of the generation of an A.C. magnetic field between magnets. According to the preferred embodiment of the above aspect of the present invention, however, a linear induction motor or linear pulse motor having no magnet means is utilized as the secondary side, so that no alternating magnetic field is generated. However, a linear D.C. motor may be utilized as far as there is adopted a structure in which the distance between the secondary sides of the first and second linear motors can be made relatively large.

**Please replace the paragraph beginning at page 5, line 23, through page 6, line 9, with the following rewritten paragraph:**

In a preferred embodiment of this aspect, the driving apparatus may further comprises first and second guide units for guiding the second movable element in the relatively movable direction with respect to the first movable element, the first guide unit being provided for the first movable element and the second guide unit being provided for the second movable element, and wherein the first linear motor generates a thrust force at a position which is substantially the same position of the first guide unit in the relatively movable direction, and the second linear motor generates a thrust force at a position which is substantially the same position of the second guide unit in the

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relatively movable direction.

**Please replace the paragraph beginning at page 6, line 20, with the following rewritten paragraph:**

The first and second linear motors are composed of linear induction motors or linear pulse motors respectively, in which the secondary sides of the respective linear induction motors are arranged so as to oppose each other.

**Please replace the paragraph beginning at page 11, line 4, was replaced with the following rewritten paragraph:**

One of the primary movable elements I of the first linear motor 1 is mounted to one longitudinal end, i.e. a front (left side, as viewed) end, and on an upper surface of the outer rail 7, one of the stators O' of the second linear motor 2 existing on the longitudinal extension of the movable element I so as to be continuous thereto.

**Please replace the paragraph beginning at page 11, line 10, with the following rewritten paragraph:**

On the other hand, the movable element I' of the second linear motor 2 is mounted to one longitudinal (rear side) end of the lower surface of the inner rail 8, and a stator O of the first linear motor 1 existing on the longitudinal extension of the movable element I' so as to be continuous thereto. Attraction forces are generated between the movable element I and the stator O and

between the movable element I' and the stator O', respectively, through the excitation of the linear motors 1 and 2. Further, in the described arrangement, the second linear motor 2 is assembled with the first linear motor 1 in a reversed state.

**Please replace the paragraph beginning at page 11, line 22, through page 12, line 5 with the following rewritten paragraph:**

With reference to the illustration of Fig. 1, the outer rail 7 has a sectional shape as a box U-shape having an upper opening, called the recessed portion 7a, hereinafter. The recessed portion 7a is defined, at both longitudinal sides, by projected ridges (side wall sections) 7b, 7b, extending in parallel to each other in the longitudinal direction. The ridges 7b, 7b each have an inner wall surface to which one ball rolling groove 11 is formed, along the longitudinal direction thereof, as a rolling member rolling surface.

**Please replace the paragraph beginning at page 12, line 6, with the following rewritten paragraph:**

Furthermore, with reference to Fig. 2, the outer rail 7 is provided, at its one (front) end, with an outer rail side guide unit 3 as first guide means for guiding the longitudinal movement of the inner rail 8 with respect to the outer rail 7. This outer rail side guide unit 3 is composed of a number of balls 13, 13, --- as rolling members rolling between the inner rail 8 and the outer rail 7 and an outer rail side ball circulation passage 14 along which the balls 13 circulate. The structure of this outer rail side ball circulation passage 14 will be described hereinafter.

**Please replace the paragraph beginning at page 12, line 17, through page 13, line 2, with the following rewritten paragraph:**

At the time of assembling, the inner rail 8 is inserted into the recessed portion 7a of the outer rail 7 so as to be supported between the ridges 7b, 7b of the outer rail 7 through the guidance of the outer rail side guide unit 3 and inner rail side guide unit 4. The inner rail 8 has a sectional shape as a box U-shape having a lower opening, called recessed portion 8a, hereinafter. The inner rail 8 has outer side surfaces 8c, 8c opposing to inside surfaces 7c, 7c, and loaded ball rolling grooves 15, 15 are formed to the outer side surfaces 8c, 8c so as to correspond to the ball rolling grooves 11, 11 of the ridges 7b, 7b of the outer rail 7.

**Please replace the paragraph beginning at page 13, line 3, with the following rewritten paragraph:**

On the other side end (rear side end) opposing to the outer rail side ball circulation passage 14, there is formed the inner rail side guide unit 4 as second guide means for guiding the longitudinal movement of the inner rail 8 with respect to the outer rail 7.

**Please replace the paragraph beginning at page 13, line 8, with the following rewritten paragraph:**

The inner rail side guide unit 4 and the outer rail side guide unit 3 are arranged along the longitudinal direction of the inner rail 8 or outer rail 7. The inner rail side guide unit 4 is formed with a number of balls 12, 12 --- rolling between the inner rail 8 and the outer rail 7 and an inner rail side

ball circulation passage 16 along which the balls 12 circulate. Further, the outer rail side guide unit 3 is formed to one end portion of the outer rail 7, and on the other hand, the inner rail side guide unit 4 is formed to one end of the inner rail 8. Accordingly, these outer and inner rails 7 and 8 are assembled from directions along which both do not interfere with each other.

**Please replace the paragraph beginning at page 15, line 11, with the following rewritten paragraph:**

The ball return passages A are formed respectively through drilling working effected in the longitudinal direction from the ends of outer rail body 7d and inner rail body 8d. The respective direction changing passages B of the outer rail side ball circulation passage 14 and the inner rail side ball circulation passage 16 are formed in deflectors 19, which are to be mounted to the inner rail body 8d and the outer rail body 7d as members independent therefrom.

**Please replace the paragraph beginning at page 16, line 13, through page 17, line 6, with the following rewritten paragraph:**

As shown in Fig. 2, the outer rail body 7d is drilled from the side portions by means of an end mill, for example, to thereby form holes 33, through which the deflector 19, such as shown in Fig. 3, is inserted and mounted to the outer rail 7. The inserted deflector 19 is firmly fixed to the outer rail body 7d by using fixing means such as bonding material. The hole 33 is formed so as to penetrate the ball return passage A and extend to the ball rolling groove 11 or loaded ball rolling groove 15. The hole 33 is also formed therein with a staged portion 33a abutting against the

abutment portion 29 of the deflector 19. The outer periphery of the deflector 19 is fitted to the holes 33 [till] until the abutment portions 29 abut against the staged portions 33a in the holes 33, thus positioning the deflector 19 with respect to the outer rail body 7d or inner rail body 8d. The positioning of the deflector 19 makes it possible to surely scoop the balls 12 or 13 from the ball rolling groove 11 or loaded ball rolling groove 15 and surely return the balls 12 or 13 to the ball return passage A.

**Please replace the paragraph beginning at page 17, line 6, with the following rewritten paragraph:**

Furthermore, the inner rail body 8d is also drilled from the side portions thereof by means of an end mill, for example, so as to form holes 33 into which the deflector 19 is fitted and mounted to the inner rail body 8d. Further, it is to be noted that, in the described embodiment, although the outer rail body 7d is drilled from its outer side portions and the inner rail body 8d is drilled from its inner side portions to form the holes 33, it is of course possible to form the holes 33 from the inner side portions of the outer rail body 7d and the outer side portions of the inner rail body 8d.

**Please replace the paragraph beginning at page 19, line 19, with the following rewritten paragraph:**

The stator O is formed with stationary teeth (stator teeth) 65 which extend in a direction perpendicular to the longitudinal direction of the stator O. The stationary teeth 65 have a substantially box U-shape section in each tooth and being arranged with equal pitch along the entire

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length direction thereof. Like this stator O, the respective magnetic poles 61 to 64 are formed with magnetic pole teeth 61a to 64a with the same pitch as that of the stator O, respectively.